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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903.832	07/12/2001	John Border	PD-201025	1395

7590   12/01/2004

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EXAMINER
SWEARINGEN, JEFFREY R

ART UNIT	PAPER NUMBER
2145	

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/903,832	BORDER ET AL.
	Examiner	Art Unit	
	Jeffrey R. Swearingen	2145	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *12 July 2001*.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-36* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-36* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *12 July 2001* is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/8/03*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

Information Disclosure Statement

1.   The listing of references in the specification is not a proper information disclosure statement. 37

CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by

the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must

be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on

form PTO-892, they have not been considered. A proper information disclosure statement has been

submitted, but any extant references listed in the specification but omitted from the information disclosure

statement are improper and have not been considered unless cited by the examiner on form PTO-892.

Drawings

2.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not

include the following reference sign(s) mentioned in the description: Figure 5, item 500; Figure 16, item

1629; Figure 18, item 20. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4)

because reference character "22" has been used to designate both IP Host 20 (presumed by Examiner)

and IP Host 22. Figures 17 and 18 should be designated by a legend such as --Prior Art-- because only

that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR

1.121(d) are required in reply to the Office action to avoid abandonment of the application. The

replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR

1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the

examiner, the applicant will be notified and informed of any required corrective action in the next Office

action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3.   **Claims 1-9** rejected under 35 U.S.C. 103(a) as being unpatentable over Baras et al. ("Fast

Asymmetric Internet Over Wireless Satellite-Terrestrial Networks", MILCOM 97 Proceedings, Nov. 3-5

1997, Annual Military Communications Conference) and Takagi et al. (EP 0 903 905 A).

4.   Regarding **claim 1**, Baras discloses *a spoofing module configured to selectively spoof a plurality*

of connections associated with a plurality of hosts based upon corresponding spoofing criteria and to

provide local acknowledgement of received messages over the connections [See Baras, page 375, The

TCP Spoofer Kernel]; *a connection module configured to multiplex the plurality of connections over a*

common backbone connection [Baras uses a hybrid network with a satellite link. The satellite link is a

common backbone connection. See Baras, Figure 1.]; *and a path selection module configured to*

determine a path among a plurality of paths to transmit the received messages based upon path selection

criteria [Baras selects which path to use by using TCP port numbers. See Baras, page 376.], *wherein the*

spoofing module is configured to allocate a connection control block among a plurality of connection

control blocks corresponding to a spoofed connection, each of the plurality of connection control blocks

storing information related to the plurality of connections [See Baras, page 375, Data Structures.] Baras

fails to disclose *a prioritization module configured to prioritize access to the backbone connection based*

upon prioritization criteria.

5.   However, Takagi discloses *a prioritization module configured to prioritize access to the backbone*

connection based upon prioritization criteria [See Takagi, column 28, lines 14-41].

6.   It would be obvious to one of ordinary skill in the networking art at the time of the invention to

combine the teachings of Baras and Takagi for the purpose of improving the performance of TCP. [See

Takagi, column 28, lines 31-33.] Baras gives motivation for the combination by stating that a goal of the

TCP spoofer is TCP performance enhancement. [See Baras, page 375.] By this rationale **claim 1** is

rejected.

7.   Regarding **claim 2**, Baras and Takagi are applied as in claim 1. Baras further discloses *a*

mapping table to store connection control block allocation information [Baras discloses a table with CCB

information. See Baras, page 375, Data Structures.] By this rationale **claim 2** is rejected.

8.   Regarding **claim 3**, Baras and Takagi are applied as in claim 1. Baras further discloses *a hash*

function logic configured to output pointers corresponding to the plurality of connection control blocks

[Baras discloses a Hash Table for connection control blocks. See Baras, page 375, Data Structures.] By

this rationale **claim 3** is rejected.

9.   Regarding **claim 4**, Baras and Takagi are applied as in claim 1. Baras further discloses *the*

quantity of connection control blocks is configurable [Baras discloses allocating a new CCB upon

detection of a new connection. The CCB is released when the connection is terminated, aborted, or has

been idle. See Baras, page 375, Data Structures. See Baras, page 375, Idle Connection.] By this

rationale **claim 4** is rejected.

10.   Regarding **claim 5**, Baras and Takagi are applied as in claim 1. Baras further discloses *the*

backbone connection is a satellite link [See Baras, pgae 372, Introduction. See Baras, page 372,

Asymmetric Internet Over Satellite. See Baras, page 373, System Description. See Baras, page 373,

Figure 1.] By this rationale **claim 5** is rejected.

11.   Regarding **claim 6**, Baras and Takagi are applied as in claim 1. Baras further discloses *the*

plurality of connections are established according to the Transmission Control Protocol (TCP) [Baras

discloses a TCP/IP network with TCP connections. See Baras, page 374, Solutions, Effects Due to High

Round-Trip Time.] By this rationale **claim 6** is rejected.

12.   Regarding **claim 7**, Baras and Takagi are applied as in claim 1. Takagi further discloses the

spoofing criteria includes at least one of Destination IP address; Source IP address; TCP port numbers;

TCP options; and IP differentiated services field [Takagi discloses using the header information of the IP

datagram to pass datagrams through virtual channels (TCP spoofing). The IP datagram information used

includes source IP address, source port number, destination IP address, destination port number. See

Takagi, column 14, lines 25-33. See Takagi, column 16, lines 47-58. See Takagi, column 17, lines 5-17.]

By this rationale **claim 7** is rejected.

13.   Regarding **claim 8**, Baras and Takagi are applied as in claim 1. Takagi further discloses the

prioritization criteria includes at least one of Destination IP address; Source IP address; IP next protocol,

TCP port numbers; UDP port numbers; and IP differentiated services field [Takagi discusses using the IP

datagram to select the priority level. The IP datagram includes the destination IP address and the source

IP address. See Takagi, column 17, lines 5-17. See Takagi, column 28, line 34 – column 29, line 3.] By

this rationale **claim 8** is rejected.

14.   Regarding **claim 9**, Baras and Takagi are applied as in claim 1. Baras further discloses the prioritization module sets priority of one of the received messages, the one message being an IP packet, wherein the path selection criteria includes at least one of the priority of the IP packet, Destination IP address, Source IP address, IP next protocol, TCP port numbers, UDP port numbers, and IP differentiated services field. [Baras discloses selecting the path based upon TCP port numbers. See Baras, page 376, "In this hybrid scheme..."] By this rationale **claim 9** is rejected.

15.   Regarding **claim 10**, the limitations of this claim are substantially the same as the limitations of claim 1. Therefore the rationale used to reject claim 1 is also used to reject claim 10. By this rationale **claim 10** is rejected.

16.   Regarding **claim 11**, the limitations of this claim are substantially the same as the limitations of claim 2. Therefore the rationale used to reject claim 2 is also used to reject claim 11. By this rationale **claim 11** is rejected.

17.   Regarding **claim 12**, the limitations of this claim are substantially the same as the limitations of claim 3. Therefore the rationale used to reject claim 3 is also used to reject claim 12. By this rationale **claim 12** is rejected.

18.   Regarding **claim 13**, the limitations of this claim are substantially the same as the limitations of claim 4. Therefore the rationale used to reject claim 4 is also used to reject claim 13. By this rationale **claim 13** is rejected.

19.   Regarding **claim 14**, the limitations of this claim are substantially the same as the limitations of claim 5. Therefore the rationale used to reject claim 5 is also used to reject claim 14. By this rationale **claim 14** is rejected.

20.   Regarding **claim 15**, the limitations of this claim are substantially the same as the limitations of claim 6. Therefore the rationale used to reject claim 6 is also used to reject claim 15. By this rationale **claim 15** is rejected.

21.   Regarding **claim 16**, the limitations of this claim are substantially the same as the limitations of claim 7. Therefore the rationale used to reject claim 7 is also used to reject claim 16. By this rationale **claim 16** is rejected.

22.   Regarding **claim 17**, the limitations of this claim are substantially the same as the limitations of claim 8. Therefore the rationale used to reject claim 8 is also used to reject claim 17. By this rationale **claim 17** is rejected.

23.   Regarding **claim 18**, the limitations of this claim are substantially the same as the limitations of claim 9. Therefore the rationale used to reject claim 9 is also used to reject claim 18. By this rationale **claim 18** is rejected.

24.   Regarding **claim 19**, the limitations of this claim are substantially the same as the limitations of claim 1. Therefore the rationale used to reject claim 1 is also used to reject claim 19. By this rationale **claim 19** is rejected.

25.   Regarding **claim 20**, the limitations of this claim are substantially the same as the limitations of claim 2. Therefore the rationale used to reject claim 2 is also used to reject claim 20. By this rationale **claim 20** is rejected.

26.   Regarding **claim 21**, the limitations of this claim are substantially the same as the limitations of claim 3. Therefore the rationale used to reject claim 3 is also used to reject claim 21. By this rationale **claim 21** is rejected.

27.   Regarding **claim 22**, the limitations of this claim are substantially the same as the limitations of claim 4. Therefore the rationale used to reject claim 4 is also used to reject claim 22. By this rationale **claim 22** is rejected.

28.   Regarding **claim 23**, the limitations of this claim are substantially the same as the limitations of claim 5. Therefore the rationale used to reject claim 5 is also used to reject claim 23. By this rationale **claim 23** is rejected.

29.   Regarding **claim 24**, the limitations of this claim are substantially the same as the limitations of claim 6. Therefore the rationale used to reject claim 6 is also used to reject claim 24. By this rationale **claim 24** is rejected.

30.   Regarding **claim 25**, the limitations of this claim are substantially the same as the limitations of claim 7. Therefore the rationale used to reject claim 7 is also used to reject claim 25. By this rationale **claim 25** is rejected.

31.   Regarding **claim 26**, the limitations of this claim are substantially the same as the limitations of claim 8. Therefore the rationale used to reject claim 8 is also used to reject claim 26. By this rationale **claim 26** is rejected.

32.   Regarding **claim 27**, the limitations of this claim are substantially the same as the limitations of claim 9. Therefore the rationale used to reject claim 9 is also used to reject claim 27. By this rationale **claim 27** is rejected.

33.   Regarding **claim 28**, the limitations of this claim are substantially the same as the limitations of claim 1. Therefore the rationale used to reject claim 1 is also used to reject claim 28. By this rationale **claim 28** is rejected.

34.   Regarding **claim 29**, the limitations of this claim are substantially the same as the limitations of claim 2. Therefore the rationale used to reject claim 2 is also used to reject claim 29. By this rationale **claim 29** is rejected.

35.   Regarding **claim 30**, the limitations of this claim are substantially the same as the limitations of claim 3. Therefore the rationale used to reject claim 3 is also used to reject claim 30. By this rationale **claim 30** is rejected.

36.   Regarding **claim 31**, the limitations of this claim are substantially the same as the limitations of claim 4. Therefore the rationale used to reject claim 4 is also used to reject claim 31. By this rationale **claim 31** is rejected.

37.   Regarding **claim 32**, the limitations of this claim are substantially the same as the limitations of claim 5. Therefore the rationale used to reject claim 5 is also used to reject claim 32. By this rationale **claim 32** is rejected.

38.   Regarding **claim 33**, the limitations of this claim are substantially the same as the limitations of claim 6. Therefore the rationale used to reject claim 6 is also used to reject claim 33. By this rationale **claim 33** is rejected.

39.   Regarding **claim 34**, the limitations of this claim are substantially the same as the limitations of claim 7. Therefore the rationale used to reject claim 7 is also used to reject claim 34. By this rationale **claim 34** is rejected.

40.   Regarding **claim 35**, the limitations of this claim are substantially the same as the limitations of claim 8. Therefore the rationale used to reject claim 8 is also used to reject claim 35. By this rationale **claim 35** is rejected.

41.   Regarding **claim 36**, the limitations of this claim are substantially the same as the limitations of claim 9. Therefore the rationale used to reject claim 9 is also used to reject claim 36. By this rationale **claim 36** is rejected.

Conclusion

42.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Andersson et al.   U.S. Patent No. 6,061,341

Jorgensen   U.S. Patent No. 6,640,248

Chapman et al.   U.S. Patent No. 6,023,456

Dillon   U.S. Patent No. 6,701,370

Srinivas   U.S. Patent No. 6,823,387

Packer   U.S. Patent No. 6,298,041

Schroeder et al.   U.S. Patent No. 6,327,626

Packer   U.S. Patent No. 6,038,216

Spatscheck, O. et al. "Optimizing TCP Forwarder Performance." IEEE/ACM Transactions on Networking, Vol. 8 No. 2, April 2000. pp. 146-157

Ishac, J. et al. "On the performance of TCP spoofing in satellite networks". Military Communications Conference, 2001. MILCOM 2001. Communications for Network-Centric Operations: Creating the Information Force. IEEE , Volume: 1 , 28-31 Oct. 2001 Pages:700 - 704 vol.1

        Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571) 272-3921. The examiner can normally be reached on M-F 8:30-5:00.
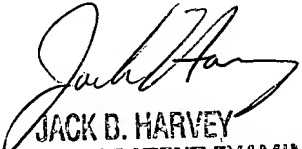
   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack

Harvey can be reached on (571) 272-3896. The fax phone number for the organization where this

application or proceeding is assigned is 703-872-9306.

   Information regarding the status of an application may be obtained from the Patent Application

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at 866-217-9197 (toll-free).

                                                          Jeffrey R. Swearingen
                                                          Examiner
                                                          Art Unit 2145

JRS

                                                          JACK D. HARVEY
                                                   SUPERVISORY PATENT EXAMINER